attained the state of induration which it is capable of attaining. William Hosking.

"Office of Metropolitan Buildings.

February 2, 1849."

Mr. Hosking, in examination, said the columns were wholly dependent on the cement: properly bonded brickwork in mortar was capable of bearing greater weight than those columns. The pedestals would not have failed but for the columns first yielding. Roman cement, when set, was incompressible: he thought it had not yielded in the present case till the agitation of the scaffold had broken up the columns. Some impulse was necessary to produce the accident, and he could find none other than in the scaffold. In answer to the coroner—the scaffold might have been bridged over without allowing putlogs to bear on the work, but this was seldom thought necessary in practice. The columns, until indurated, were not safe: under the circumstances, the attic wall should have been delayed. Knew no fixed rule to determine when cement was sufficiently set; none but the workmen employed could judge. As to position of bricks, was satisfied that bricks laid flat could be better bonded than when on edge. In these columns the strength of the brick had not been called into action. When set they would have borne ten times the weight. In reply to a juryman,—did not think it necessary to exclude round columns, but square piers of same area would certainly be stronger, because no cutting required. In underpinning, cement was used, and it was never thought necessary to keep in the needles after filling in the new work: cement was not compressible. As to the unequal pressure, the columns would have had a better chance if the weight had been equally over the two columns, but the arrangement was not inconsistent with safety.

Mr. John Braithwaite, civil engineer, was then examined, and stated he had paid much personal attention to brickwork during thirty-five years' practice. He thought the cause of the fall was the time and the weather. Did not think the columns first failed, but the pedestals. The whole was carried up in equilibrium till the attic wall was commenced, and then, being loaded unequally, the pedestal had yielded—had thrown extra weight on front column, and this broke up, induration not having taken place. Scaffolding had not had much to do with the failure. Cement must have time and quiet. If two walls were erected, and one left quiet while the other was proceeded with, the former would be found perfectly indurated, while the latter at same moment would be green through vibration. The work had been hurried, for which the public were to blame. The public pressed on the directors, the directors pressed the architect, and the architect the builder. In proof of the danger of haste, he instanced a bridge built by himself over the Blackwater river, consisting of three arches, of 45 ft. span each. It was much hurried in dry weather, and he, feeling afraid, kept in the centres for six months. It was opened and admired, but three days after, it fell and killed two men. When he examined it, he did not find a single brick to which mortar adhered. He thought there was no undue weight on the column, and the pedestal was sufficient if it had been indurated. Mr. Braithwaite further stated that he had had the pleasure of working with Mr. Cubitt for many years, and as far as his work was concerned, had never heard of its failure before; the care he took, and the supervision he uniformly exercised, both by himself and his subordinates, were most remarkable; and he could mention works constructed by him, in far greater haste than the structure in question, which had stood without the slightest failure.

The Deputy-Coroner then proceeded to sum up the evidence. The opinion had been given in a most candid and honourable manner by Mr. Hardwick, that the work was begun and carried on a little too fast, considering the season. That gentleman had thrown some light upon it, by saying that the mortar had scarcely sufficient time, and that the erection had come down because it was not enough indurated.

Mr. Hardwick—And therefore more liable to lateral pressure.

The Deputy Coroner—The season was not *excessively* wet. The time was not pressing; the contract, as he understood it, did not require Mr. Hardwick to press it on violently, and the men were employed by day-work, so that it was not a matter of haste in that respect. The gentlemen who followed Mr. Hardwick had given opinions to the same effect, that it was not from any weakness of the columns, or the pedestals, or from too much weight being placed upon them, but the non-induration of the mortar at the time the upper part was being laid upon them was the cause of the whole coming down; and whether one column or another first burst, or whether too much weight was thrown upon one column or another, were questions which might be dismissed from the minds of the jury. The question was, whether the mortar or cement was sufficiently set to justify the building being carried to such a height. The impression of Mr. Wakley and himself was, that the mortar was not sufficiently set, and that the time was not a proper one for carrying the building to such a height. It had been suggested that the motion of the scaffold might have caused the failure; but that was a matter which, as nobody saw it, was merely a matter of opinion. Mr. Wakley's impression (which he had communicated to him that morning) was, that the shaking of the scaffold had nothing to do with it at all. It seemed, therefore, that it was wrong to carry a wall to such a height in that season; and no doubt Mr. Hardwick—for all those things rested on experience — would not again, at the same season, carry up such a structure so fast. If there had been sufficient time for every thing to set, none of the gentlemen seemed to think it would have been unsafe. Much had been said about the use of columns at all in such a wall as this; but if the pedestals were not strong enough a solid wall might have come down even sooner. It was for architects to consider whether brick on edge or brick flat were the safer; but in the present case no gentleman seemed to think that the mode of building the columns had any thing to do with it. The jury would consider all the circumstances of the case, and return their verdict accordingly.

The jury then retired, and after an absence of three-quarters of an hour, returned the following verdict:—"That Charles Gedge and James Hickey were killed by the falling of a portion of a certain building situate at the Euston-square station of the London and North-Western Railway, and that the fall was caused by the non-induration of the cement and mortar with which the building was erected, during a wet and bad season of the year. And the jury add to this verdict an expression of their opinion, that due caution was not taken in the erection of the building, considering the time of year at which it was put together; at the same time they avoid expressing any opinion respecting the general design and details of the building, as they consider them to be subjects on which the judgment of architects and builders should be founded, after reviewing the various facts relating to such buildings which may come before them, amongst which facts they consider that those which have been disclosed at the present inquest may probably be regarded as of an important character."

Mr. Hardwick begged to thank the coroner and jury for the attention they had given to the matter. It was a subject on which inquiry was necessary, and he had been anxious that it should be fully investigated.

The Deputy-Coroner said that a great deal was due to Mr. Hardwick, for the very candid manner in which he had given his evidence; which, in his humble opinion, would tend to raise his character in the public estimation. Mr. Hosking had expressed an opinion, that no one could be better judges as to when a building was being raised too fast than the workmen, and that it was their duty to complain to their employers when they thought that was the case. He fully concurred in that opinion; if they neglected to act upon it, the penalty, in most cases (as in the present instance), fell upon themselves, and therefore the fact could not be too strongly impressed upon them.

Mr. Blore said he entirely agreed with what had been stated on that subject, and he knew that architects generally were much obliged to any workman who, if he apprehended danger, would come to them and say so.

Mr. Hardwick remarked that, for himself, he always gave every encouragement to workmen, being anxious in all cases to have the full benefit of their opinion.

Something has been said, during the inquiry, of an intention to rebuild the columns and wall precisely in the same manner as at first: we sincerely hope, for the sake of all concerned, that no such attempt will be made.

ON CAEN, ITS QUARRIES AND BUILDINGS.*

Saint Regnobert is said to have founded the church of S. John; the actual church was commenced in the fourteenth century, and the porch, the first tower, and nave are of this epoch. The choir and transept are of the beginning of the fifteenth century, and glorious in all the abundance of richness in plan, and varied splendour of enrichment in detail. There are two towers, one over the entrance front, the other at the crux or intersection of the nave and transept. They are both elaborately decorated, but from defective foundations they are considerably out of the perpendicular; and after having been carried to a great height, have been left unfinished. It is said that the famous Admiral Coligni, in 1562, directed Theodore Beza, who followed his army, to preach in the nave, in order to teach the faithful that "*money was the sinews of war.*" After which, as a natural corollary, he directed 10,000 crowns to be levied on the Catholics, as an improvement of the text. I shall not further fatigue you by allusions to any of the other eight or nine churches, of which Caen can boast, some of which have been appropriated to civil purposes, as for instance, the superb church of S. Sauveur au Marché, now used as a corn-exchange, and which contains a profusion of delightful Flamboyant and Renaissance details.

The citadel, once a fortress of considerable strength and of great extent, towers on an eminence above the town, surrounded by strong and lofty walls, rising in parts from the fosse to a height of 80 or 90 feet, with towers or bastions, connected by a curtain wall, sometimes rising from the ditch itself, another overhanging the chasm, and supported by machicoulis. There are two ancient buildings

* See p. 53, *ante*.

For info on PDF Compression and OCR visit ThePaperlessOffice.org